International Journal of General Medicine and Pharmacy (IJGMP)
ISSN(P): 2319-3999; ISSN(E): 2319-4006
Vol. 3, Issue 2, Mar 2014, 101-106

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

DOUBLE BURDEN OF CUTANEOUS AND VISCERAL LEISHMANIASIS IN HIV: A CASE REPORT

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ABSTRACT

Introduction: Leishmaniasis is a vector-borne infection caused by an obligate intracellular protozoon, Leishmania species, which is transmitted by phlebotomine sandflies. The human leishmaniases are usually classified as visceral, localized cutaneous, diffuse cutaneous or muco–cutaneous and their manifestations can present a wide clinical spectrum depending upon type, virulence and immune response of the infected person. Since HIV infection has extended to areas in which human leishmaniasis is endemic, the incidence of human leishmaniasis is on a rise. However cases with cutaneous and visceral leishmaniasis together in HIV patient are extremely rare.

Case Presentation: A 47 year male came with complaint of painful nodular lesion over hands and bridge of the nose since 8 month. Patient was diagnosed with HIV in 1994 and started on treatment in 2010. Cutaneous examination, biopsy of nodular lesion and bone marrow aspirate showed evidence of both cutaneous and visceral leishmaniasis. Patient was treated with Amphoterecin and on follow up showed improvement.

Conclusions: It is better to evaluate the diagnosis of visceral leishmaniasis in patients who present with cutaneous leishmaniasis and HIV infection. Immediate, complete, and effective treatment of both HIV infection and visceral leishmaniasis is mandatory in these patients.

KEYWORDS: Cutaneous Leishmaniasis, Double Burden, HIV, Visceral Leishmaniasis

INTRODUCTION

Leishmaniasis is a vector-borne infection caused by an obligate intracellular protozoon, Leishmania species, which is transmitted by phlebotomine sandflies.[1–3] It occurs worldwide in tropical and subtropical regions including the Middle East, India, China, Africa, and southern and central America.

The human leishmaniases are usually classified as visceral, localized cutaneous, diffuse cutaneous or muco–cutaneous and their manifestations can present a wide clinical spectrum. The differences in the clinical pattern are related not only to the type and virulence of the parasite involved but also to the immune response of the infected human. In India visceral leishmaniasis is caused by leishmania donovani. In Mediterranean and Middle Eastern regeionsViscerotropic and dermotropic strains of Leishmania infantum appear to be the only causative agents of leishmaniasis.[4]

Since HIV infection has extended to areas in which human leishmaniasis is endemic, the incidence of human leishmaniasis in the regions where the parasites and virus co-occur has been progressively increasing, especially among adults. Epidemiological data reveal that 50% of all adult cases of visceral leishmaniasis (VL) are now HIV-positive.[5]

Since the first description of leishmaniasis associated with HIV infection 15 years ago,[6] many new cases of such co-infection have been reported. They have occurred world-wide, from a total of 30 countries. However cases with cutaneous and visceral leishmaniasis together in HIV patient are extremely rare. We are hereby presenting one such case from our institution.

Case Report

A 47 year male resident of Mumbai hailing from Nepal came with complaint of painful nodular lesion over hands and bridge of the nose since 8 month (Figure 1-3). Similar lesions over legs and buttocks (since 2 months) associated with itching. No associated history of fever, breathlessness, sore throat, joint pain, cough, bleeding and bipedal edema. Patient was diagnosed with HIV in 1994 and started on treatment in 2010. Cutaneous Examination revealed multiple waxy indurated tender discrete to confluent papule-nodule present over both palms and dorsum of hands. Similar skin lesions were present over bilateral elbow, leg, ankle and buttock. Multiple violaceous flat topped discrete to collapsing plaques present over bilateral shin of legs.

On general examinations patient appeared pale and cervical lymph nodes were present. Abdominal examinations revealed moderate splenomegaly, non tender and firm in consistency which is important feature of visceral leishmaniasis. After Clincal history and examination following differentials were put forward and patient was investigated for the same: Cutaneous tuberculosis, Sarcoidosis, Leishmaniasis, Leprosy, Reticulohistiocytosis and Granuloma annulare. Biopsy of nodular skin lesion showed histiocytes packed with Intracytoplasmic LD (leishmania donovani) bodies and surrounding lymphocte and fibroblasts (Figure 4). On higher magnification, presence of amastigotes with kinetophores (Figure 5, shown in red and black arrows) was noted. Bone marrow aspirate showed enlarged macrophages due to intracytoplasmic LD bodies with in macrophages (Figure 6). After studying skin biopsy and bone marrow aspirate report, final diagnosis of Immuno-compromised state with leishmaniasis (cutaneous + visceral) was made. Patient was treated with Inj. Amphoterecin deoxycholate 1mg/kg on alternate day, Tab. Septran DS and Inj. Optineuron once a day. On follow up after 2 weeks, regression in dermal lesions was noted (Figure 7).

DISCUSSIONS

HIV/VL co-infection is relatively common in several geographic areas of the world, with more than 1700 cases reported from 33 countries to the World Health Organization up to 1998. Some of these countries include the USA, Spain, France, Italy, Bangladesh, Brazil, India, Nepal, and Sudan.[7-9]

In Asia, it is probable that a number of cases are missed as a result of the poor reporting system and lack of diagnostic facilities.[10] India is one of the endemic areas of kala - azar in Asia. Two epidemics of 100,000 cases and one epidemic of 250,000 cases (from 1991 to 1992) have been reported in India.[8] HIV/ kala-azar co-infection is currently recognized as the leading cause of adult illness and death in India.[9]

In one study of 200 patients with VL in Bihar, India, three patients were found to have HIV coinfection.[9] In this study, it was concluded that the increase in incidence of kala - azar/ HIV co-infection had occurred as a result of an increase in the number of kala-azar and HIV/AIDS cases in the population.

Our patient had HIV/VL co-infection associated with skin lesions. This association is a rare phenomenon. Only a few reports of such an association have been described worldwide. One of these cases was reported by Ara et al.[11] from

Spain. Ara et al. reported that rapid and complete clearance of the cutaneous lesions was achieved after antimonial therapy; however, in our case, the patient showed good response to Amphoterecin.

Post-kala-azar dermal leishmaniasis (PKDL) is another dermatologic complication seen in VL, but is very uncommon in HIV-positive patients.[12] This type of leishmaniasis develops after the initiation of treatment for VL. In our patient, the skin lesions developed before treatment, and so could not be attributed to PKDL.

Our case demonstrates that it is better to evaluate the diagnosis of VL in patients who present with CL and HIV infection. It should be kept in mind that, like HIV, leishmania infection also causes the depletion of T-helper cells; therefore, co-infection increases the risk and speed of immune-suppression.[13] Immediate, complete, and effective treatment of both HIV infection and VL is mandatory in these patients.

CONCLUSIONS

Our case demonstrates that patient who presents with cutaneous leshmaniasis associated with HIV infection should be investigated for the presence of visceral leshmaniasis. Immediate, complete and effective treatment of both HIV infection and leshmaniasis is mandatory in these patients.

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APPENDICES

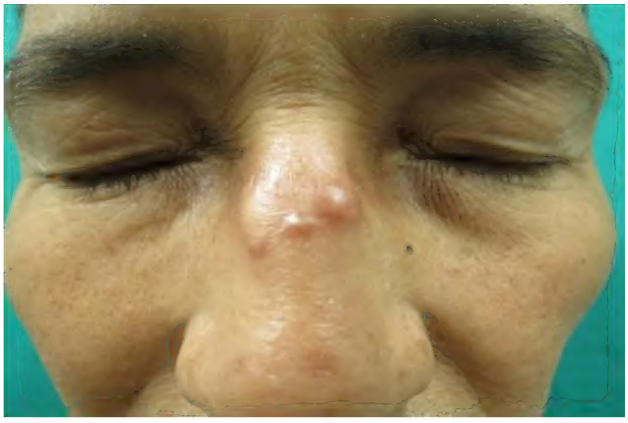

Figure 1: Nodular Lesion over Bridge of the Nose

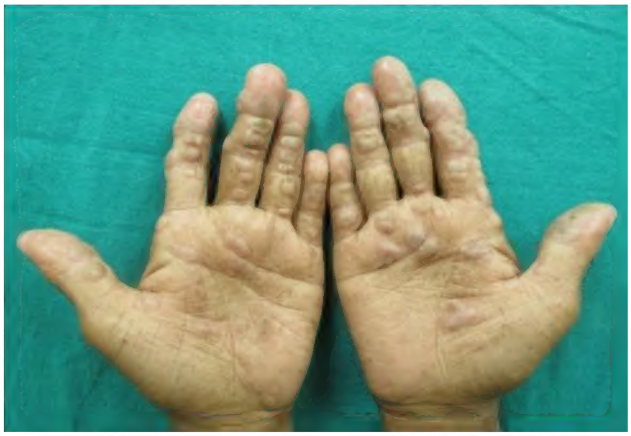

Figure 2: Nodular Lesions over Hands

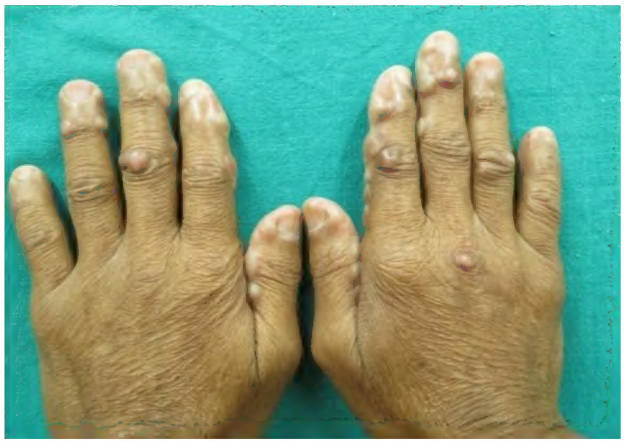

Figure 3: Nodular Lesions over Back of Hands

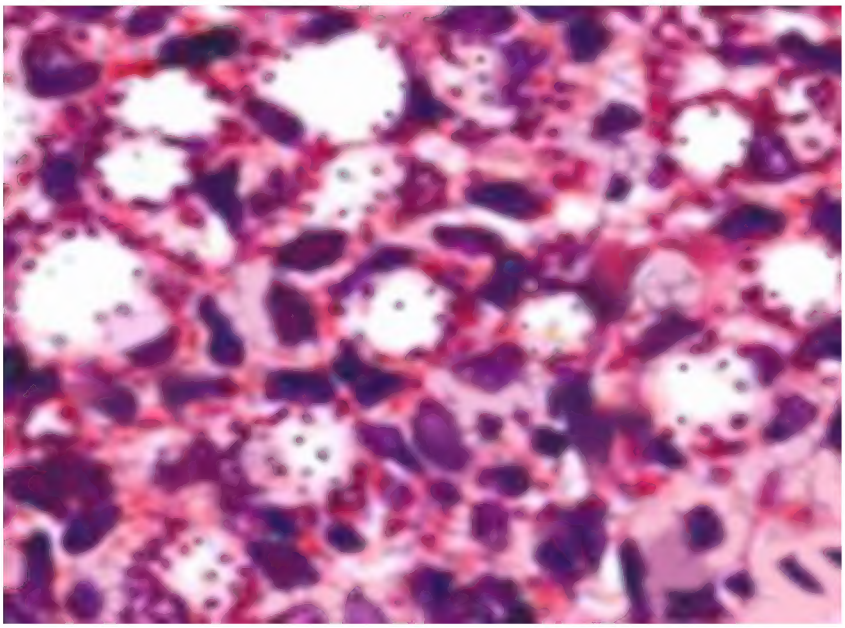

Figure 4: Biopsy of Nodular Lesion on Microscopic Examination

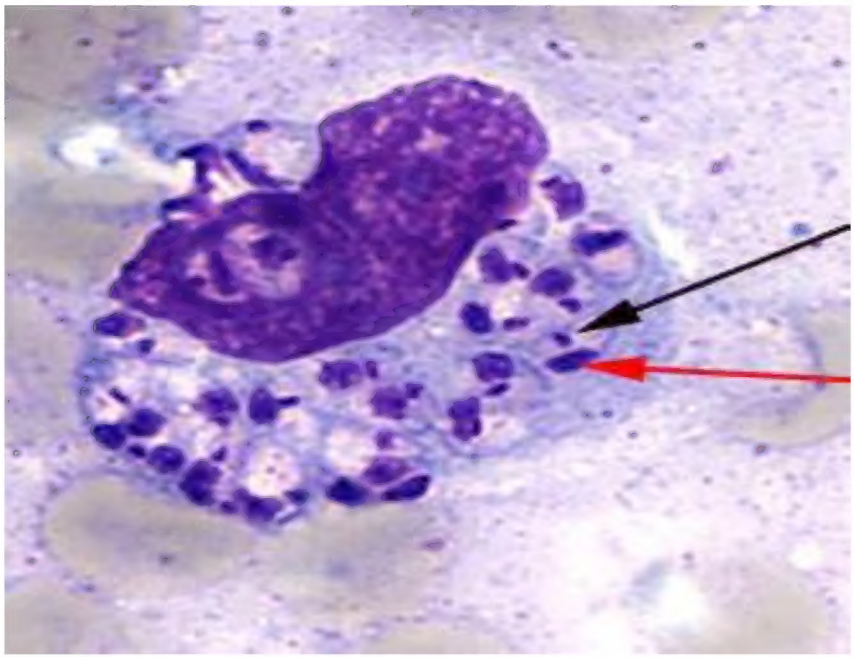

Figure 5: Biopsy of Nodular Lesion (Higher Magnification)

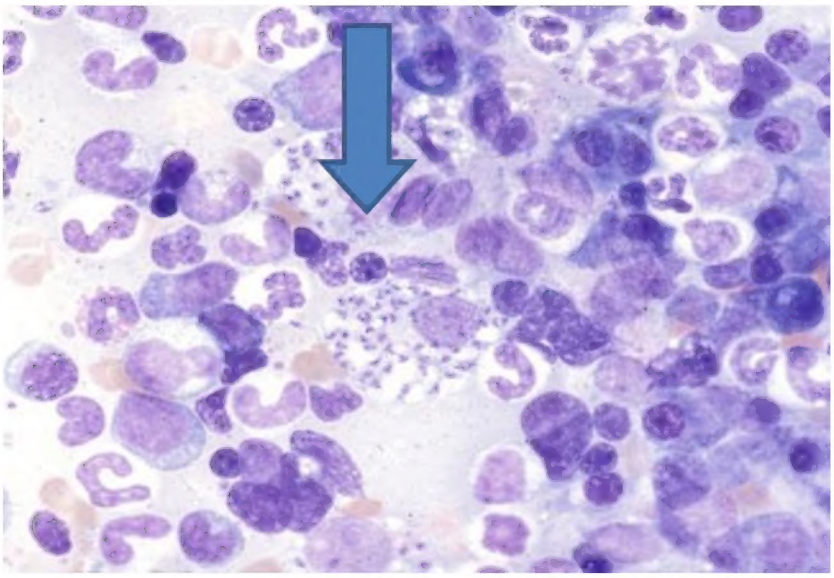

Figure 6: Bone Marrow Aspirate on Microscopic Examination

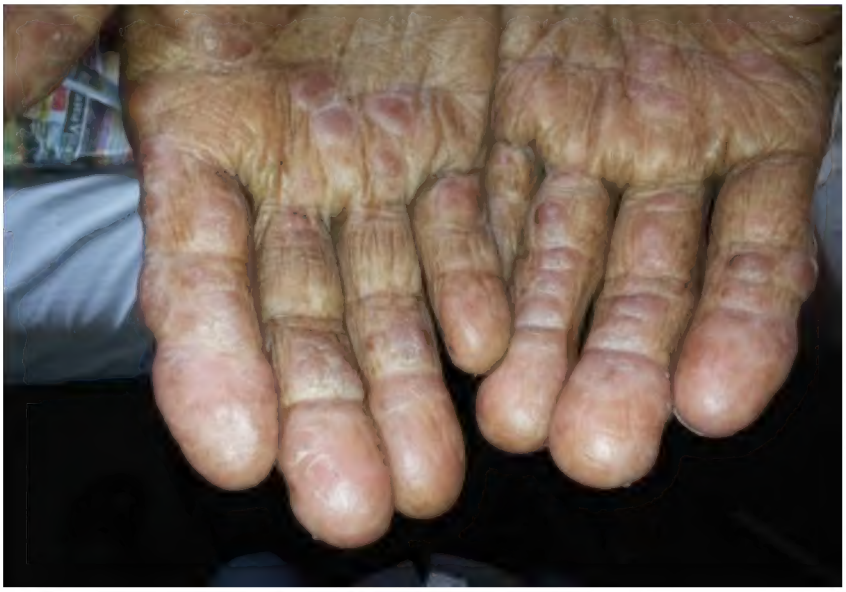

Figure 7: Regression in Dermal Lesions